

CLAIMS:

1. A relief valve mechanism for an oil pump comprising;
a body having a first hole;
a spring housed in the body and adapted to apply biasing force to a relief valve in response to contraction of the spring;
a first opening connected to the first hole of the body;
the relief valve adapted to close the first opening in response to the biasing force of the spring and adapted to open the first opening against the biasing force in response to pressure of fluid from the oil pump applied to one end of the valve; and
means for sensing a temperature positioned at the spring.
2. A relief valve mechanism for an oil pump according to claim 1, wherein the means for sensing the temperature is altered in an axial direction of the spring.
3. A relief valve mechanism for an oil pump according to claim 2, wherein the means for sensing the temperature includes a cylindrical member with at least a bottom, a retainer slidably positioned in a second hole of the cylindrical member, and a thermally adapted material enclosed by the retainer and the second hole.
4. A relief valve mechanism for an oil pump according to claim 3, wherein the means for sensing the temperature is positioned at the spring at a side of the valve.
5. A relief valve mechanism for an oil pump according to claim 3, wherein the means for sensing the temperature is positioned at the spring at an opposite side to the valve.

6. A relief valve mechanism for an oil pump according to claim 5, wherein the cylindrical member is a plug adjusted to close the first hole and to avoid dropping of the valve.

7. A relief valve mechanism for an oil pump according to claim 3, wherein the thermally adapted material includes a thermal wax.

8. A method of releasing fluid comprising:
pumping fluid by an oil pump along a first passage;
directing the fluid pumped by the oil pump along a second passage;
releasing at least a portion of the fluid to a valve relief mechanism; and
moving a relief valve of the valve relief mechanism against a biasing force of a spring
so as to release at least the portion of the fluid to the first passage.

9. A method of releasing oil according to claim 8, wherein the valve relief mechanism further includes a thermally adapted material adjusted to alter depending on an oil working temperature, a volume of the thermally adapted material is reduced at a first temperature range such that a mounting dimension of the spring is shrunk and a valve opening pressure of the relief valve is at a relatively low pressure level, and the volume of the thermally adapted material is increased at a second temperature range such that the mounting dimension of the spring is extended and the valve opening pressure of the relief valve is at a relatively high pressure level.

10. A method of releasing oil according to claim 9, wherein the thermally adapted material includes a thermal wax.